REMARKS

Claims 1, 3-8 and 11-32 were pending in the application at the time of examination. Claims 16-25 have been cancelled. Claims 1, 6, 26, 30, 31 and 32 have been amended. Claim 33 has been added. Applicants respectfully request reconsideration of the rejections set forth in the Office Action dated July 5, 2006 in view of the preceding amendments and the following remarks.

Applicants thank the Examiner for the courtesy extended during the telephonic interview with Applicants' representative on September 21, 2006. During this interview, the 35 U.S.C. §103 rejections were discussed.

In the Claims

The amended claims have been amended to clarify the present invention to expedite prosecution. Amended claim 1 now recites: "re-quantizing a first portion of the bitstream that includes a B frame including video data using a first re-quantization scheme that does not decode the first portion into a pixel domain; and re-quantizing a second portion of the bitstream that includes a P frame including video data or an I frame including video data using a second re-quantization scheme that includes full decoding and re-encoding of the second portion." The art of record is silent on such a combination of limitations.

Rejections Under35 U.S.C. 103(a)

Claims 1, 3-8, 11-15 and 26-32 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,687,095 in view of U.S. Patent No. 5,617,142 issued to Haskell ('Haskell') and Hamilton ('Hamilton'), respectively. These rejections are respectfully traversed.

Haskell describes fast transmission rate matching techniques.

Page 3 of the Office Action dated July 5, 2006 points to 107 and 702 of Figs. 1 and 7, respectively, of Haskell to teach a first and a second re-quantization scheme. It is respectfully submitted that these sections do not teach multiple re-quantization schemes. Fig. 7 is a

magnified view of the DCT Coefficients Processor 107 of Fig. 1. For both Fig. 1 and Fig. 7, then, the means for re-quantizing is the Quantizer 702. Thus, 107 and 702 refer to the same means of quantizing. Haskell does not teach both the first and second re-quantization schemes recited in claim 1.

Furthermore, it is respectfully submitted that Haskell fails to teach "a **first** re-quantization scheme that does not decode the first portion into a pixel domain" and "a **second** re-quantization scheme that includes **full** decoding and re-encoding," as the amended claims recite. The Office Action points to 104 and 701 of Figs. 1 and 7, respectively, of Haskell to teach **full** decoding and 109 and 702 to teach **full** re-encoding. As detailed in col. 4 lines 26-28, VMD 104 outputs quantized DCT coefficients at output 105. The DCT coefficients are sent to DCT coefficients processor 107 (lines 38-40), which reduces bit rate by re-quantizing the DCT coefficients or by dropping coefficients. The processor 107 outputs altered DCT coefficients to multiplexing encoder 109, which combines the DCT coefficients with motion vectors to produce encoded video. Notably, **Haskell never decompresses the data further than the DCT coefficients**, and thus does not teach **full** decoding as recited in the independent claims. He also does not teach full re-encoding since multiplexing encoder 109 receives DCT coefficients, which represent partially encoded video. Thus, there are **two** limitations in the claims that are not taught by Haskell: **full** decoding and **full** re-encoding (for a **second** re-quantization scheme).

Moreover, Haskell clearly teaches against full decoding and re-encoding as recited in the amended claims. Specifically, he states (See col. 2 lines 41-53):

> Pursuant to the **transcoding method**, a compressed video bit stream having a first bit rate is **fully decoded** into a video space known as the **pel** domain. This **fully-decoded** bit stream, which may be conceptualized as a **completely reconstructed video sequence**, is then encoded into a video bit stream having a second bit rate.
>
> The existing **transcoding** method is **disadvantageous**. Since decoding as well as encoding processes are required, transcoding is very **time-consuming**. As a practical matter, the time delay is at least twice that of the end-to-end encoding delay. Such a delay is **not tolerable** for applications requiring real-time communication, such as multimedia conferencing.

As stated in the MPEP: "Prior Art Must be Considered in its Entirety, Including Disclosures that Teach Away from the Claims" (MPEP 2141.02). It is respectfully submitted

that the reference must not teach away from the claims (which Haskell openly does) in order to be used in a §103 combination rejection.

Hamilton, too, teaches against full decoding and re-encoding: "Complexity and expense are reduced by only **partially** decompressing and requantizing the previously compressed information to modify its compression level without the need to provide components such as a motion compensation processor and frame store that would be required for full decompression of the information prior to recompression"(See Abstract). Thus, Hamilton also teaches against the claims and violates rules for the modification of a reference per the MPEP.

In addition, Hamilton states that "It would be further advantageous to provide such a scheme that requires only a minimal amount of compression related components at the redistribution sites which receive the high quality satellite signals and redistribute them locally at a higher compression level" (see col. 2. lines 60-67 of Hamilton). Haskell's system, on the other hand, adds components and complexity to speed transmission rate matching and requires two-way communications, which adds substantial complexity onto Hamilton's single direction broadcasts. Combining systems and components in the Haskell and Hamilton as asserted in the §103 combination rejection would produce a device with increase complexity, which Hamilton openly teaches against. The current §103 rejection thus contradicts another rule in the MPEP for combining references: "References Cannot be Combined Where the Reference Teaches Away from Their Combination" (MPEP 2145 X.D.2).

For at least these reasons, any combination rejection using Haskell and Hamilton is improper per the MPEP, it is respectfully submitted that the claimed invention is not obvious in view of the prior art, and it is respectfully submitted that independent claims 1, 26, 30 and 31 are allowable over the art of record.

Withdrawal of the rejection under 35 USC 103(a) is therefore respectfully requested.

Dependent claims 3-8, 11-15 and 27-29 and 32 each depend directly from independent claims 1 and 26, respectively, and are therefore respectfully submitted to be patentable over the art of record for at least the reasons set forth above with respect to the independent claims. Furthermore, the dependent claims recite additional elements which

when taken in the context of the claimed invention further patentably distinguish the art of record. For example, dependent claim 6 recites performing full decoding and re-encoding on a P-frame. Since Haskell does not teach full encoding and re-encoding, he therefore does not teach this limitation.

Claim 33 also recites a method for converting the bit rate of a compressed bitstream to use an available bandwidth of a channel using two different requantization schemes. The first requantization scheme is performed on the chroma component of the bitstream and does not does not include decoding into a pixel domain. The second requantization scheme does include full decoding and full re-encoding and is performed on the luma component of the bitstream. Support for this addition can be found throughout the specification and particularly on page 24 line 13 through page 25 line 19. Claim 33 recites limitations similar to those of claim 1, and therefore, is respectfully submitted to be patentable over the art of record for at least the reasons discussed above with respect to claim 1.

Conclusion

Applicants believe that all pending claims are allowable and respectfully request a Notice of Allowance for this application from the Examiner. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

Respectfully submitted,
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